

Blood Chain and Supply System

Purpose

The shortage of blood can occur at anytime, anywhere and in some cases, it also happens that some of the hospitals do 'not have their own blood bank or most of the time there is deficiency of blood or no match of the required blood group is found. Purpose of this application is to simplify and automate the process of searching for blood in case of emergency and maintain the records of blood donors, recipients and stock availability in the blood bank.

Problem Statement

Our application mainly deals with following major problems of current scenario:

- Manual approach
 - The communication gap between donor and recipient.
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- I. **Manual approach:** Currently, major blood banks follow the manual approach for processing blood. With the manual approach, there are problems in managing bloodstock, blood donor details, and request details.
 - II. **The communication gap between donor and recipient:** Due to the lack of communication between the blood donors and the blood recipients, most of the patients in need of blood do not get the blood on time. So, it is required to make synchronization between the blood donors, recipient, and the blood banks. This improper management of blood leads to wastage of the available blood inventory.

Key Functionalities

Functionalities provided by the applications are as follows:

- The application provides the login for admin, blood bank, Lab assistant, donor and recipient for searching, viewing and request blood information.
- Provides search facilities based on various factors like geo location, blood group and details of donor and recipient.
- Track availability of blood and information of different blood group.
- Show information of blood bank, donor and recipient.

Proposed Entities

Admin: Admin can manage credential and information of blood bank, lab, donor and recipient.

User: Application can store the details of the user. Basically, a user can be of two types.

- Donor: Application will store the information of the user such that in case of requirement of blood, blood bank or recipient can directly contact them.
- Recipient: Through the application, a recipient can directly contact to the blood bank if bloodstock is available or with the donor of the required blood group.

Blood Bank: Blood bank basically manages blood stock availability and store details of donor and recipient.

Lab Assistant: Lab Assistant validates the blood stock.

Additional features

- Notification through the mail will be sent to a donor or blood bank if a user will request for blood.
- Immediate blood can be provided to the user in case of an emergency. The application will find the nearest blood bank or donor from where blood can be provided to the user who is in need.